

In the Specification:

Please amend the specification as follows.

1. Please replace paragraph [0009] at page 3-4, with the following paragraph:

[0009] Methods for protecting horses against diseases associated with EHV-1 and/or EHV-4 which include administering a vaccine containing inactivated EHV-1 to the horses. The vaccine can be administered using a variety of methods including intranasal and/or parenteral (e.g., intramuscular) administration. In one embodiment of the method, the inactivated EHV-1 containing vaccine is first administered intramuscularly one or more times (e.g., at intervals of 2-4 weeks), followed by administration of the vaccine at least once intranasally (e.g., 2-4 weeks after the last parenteral administration of vaccine). The vaccine is advisedly administered to horses that are 6 months or older. Ideally, all horses in given a given herd are vaccinated annually in order to protect against the spread of respiratory symptoms of the disease.

2. Please replace paragraph [0019] at page 6-7, with the following paragraph:

[0019] Where the vaccine is to be administered intranasally, it may be advantageous to use an adjuvant is bioadhesive with respect to mucous membranes. Bioadhesive polymers generally have the property of being able to adhere to a mucous membrane in the eyes, nose, mouth, gastrointestinal tract, vaginal cavity and rectal canal. Bioadhesive may be broadly defined as a material that adheres to a live or freshly killed biological surface such as mucus membrane or skin tissue. Bioadhesion as that phrase is used herein to define a useful bioadhesive is assayed by a procedure that measures the force required to separate two layers of freshly excised rabbit stomach tissue that are adhered together by an adhesive. Using this procedure, a bioadhesive may be defined as a material that requires a force of at least about 50 dynes/cm.sup.2 to separate two adhered, freshly excised pieces of rabbit stomach tissue, following the procedure described in U.S. 4,615,697, the disclosure of which is herein incorporated by reference. The upper limits for forces required to separate the freshly excised rabbit

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tissue are not precisely known, but are believed to be at least about 2000
dynes/cm.sup.2 dynes/cm².

3. Please replace paragraph [0023] at page 8, with the following paragraph:

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[0023] The present vaccines typically include inactivated EHV-1 formulated with a pharmaceutically pharmaceutically acceptable carrier. The pharmaceutical forms suitable for injectable use commonly include sterile aqueous solutions (where water soluble) or dispersions and sterile powders for the extemporaneous preparation of sterile injectable solutions or dispersion. The formulation should desirably be sterile and fluid to the extent that easy syringability exists. The dosage form should be stable under the conditions of manufacture and storage and typically is preserved against the contaminating action of microorganisms such as bacteria and fungi. The carrier can be a solvent or dispersion medium containing, for example, water, ethanol, polyol (for example, glycerol, propylene glycol, liquid polyethylene glycol, and the like), suitable mixtures thereof and vegetable oils. One possible carrier is a physiological salt solution. The proper fluidity of the solution can be maintained, for example, by the use of a coating such as lecithin, by the maintenance of the required particle size in the case of dispersion and by the use of surfactants. The prevention of the action of microorganisms can be brought about by various antibacterial and antifungal agents, for example, parabens, chlorobutanol, phenol, sorbic acid, thimerosal (sodium ethylmercuri-thiosalicylate), deomycin, gentamicin and the like. In many cases it may be preferable to include isotonic agents, for example, sugars or sodium chloride. Prolonged absorption of the injectable compositions, if desired, can be brought about by the use in the compositions of agents delaying absorption, for example, aluminum monostearate and gelatin.

4. Please replace paragraph [0098] at page 31, with the following paragraph:

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[0098] At approximately three weeks before the intended date of challenge of horses with virulent EHV-1, an outbreak of Strangles occurred in the horses. Samples taken from swollen lymph nodes were submitted to Montana State University diagnostic laboratory and *Streptococcus equi* was isolated from the samples. Penicillin was

administered to the horses and horses were vaccinated with a live attenuated *S. equi* vaccine, Pinnacle. Horses were allowed to recover from Strangles for three weeks before challenge with virulent EHV-1. ~~On~~ One horse, a non-vaccinated control horse, was removed from the study on the day of challenge with EHV-1. Slight depression and dyspnea were observed and inspiratory squeaks were heard upon examination. Another horse, in the intramuscular vaccine group, died September 21, 2000, five weeks prior to EHV-1 challenge. The cause of death was pneumonia. A third horse, in the intramuscular vaccine group, died on October 28, 2000, one day post challenge. The cause of death was a ruptured mesentery abscess and subsequent toxemia. *S. equi* was isolated from the abscess. All horses challenge with EHV-1 were healthy and showed no evidence of *S. equi* infection. All data from the horses removed from the study were not included in the report.

5. Please replace paragraph [0101] at pages 32-33, with the following paragraph:

[0101] Serum VN antibody titers in horses before and after vaccination and challenge with virulent EHV-1 were determined. All horses in both the intramuscular and intramuscular/intranasal vaccine groups had VN antibody titers of ≤ 2 or 4 to EHV-1 at the time of the first vaccination. One horse in the intramuscular vaccine group and five horses in the intranasal vaccine group had VN antibody titers to EHV-4 of 8 or 16 at the time of the first vaccination. VN antibody titers in the non-vaccinated control horses were ≤ 2 to 16 with the majority at ≤ 2 or 4 at the time of the first vaccination. None of the horses showed any evidence of a respiratory infection and there was no known previous exposure to EHV. After one vaccination, there was little to no increase in VN titer to EHV-1 and EHV-4. Antibody titers in the non-vaccinated control horses remained unchanged and, in fact, antibody titers in some controls decreased slightly from pre vaccination titers. After the second vaccination, VN antibody titers to EHV-1 increased in the intramuscular and intramuscular/intranasal vaccine groups. Antibody titers to EHV-4 did not increase in either of the vaccine groups. Antibody titers in non-vaccinated controls remained unchanged or continued to decline in the non-vaccinated control group. Post third vaccination, the VN titers to EHV-1 continued to increase. Antibody titers to EHV-4 also increased after the third vaccination. The geometric mean VN antibody titers to EHV-1 and EHV-4 in the intramuscular vaccine

group were 86 and 19, respectively and were 69 and 20 for EHV-1 and EHV-4, respectively in the intramuscular/intranasal group. With the exception of three non-vaccinated control horses, antibody titers to EHV-1 and EHV-4 remained unchanged or declined by the end of the third vaccination period. At 21 days post challenge with virulent EHV-1, VN antibody titers to both EHV-1 and EHV-4 increased dramatically in some vaccinees and increased only slightly or remained the same in other vaccinees. However, in non-vaccinated control horses, VN antibody titers increased over 100 fold to both EHV-1 and EHV-4 in all but four non-vaccinated control horses. In general, VN antibody titers were greater to EHV-1 than to EHV-4.
